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# B.Tech (Civil Engineering) (2011 Onwards E-I & II) (Sem.-7) REINFORCED EARTH AND GEOTEXTILES

Subject Code: BTCE-813 M.Code: 71872

Time: 3 Hrs. Max. Marks: 60

## **INSTRUCTIONS TO CANDIDATES:**

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

#### **SECTION-A**

## 1) Write briefly:

- (a) What is the mechanism of the reinforced earth techniques?
- (b) List the major raw materials that are used for the manufacture of soil reinforcements.
- (c) Define Pull Out Test.
- (d) List out the factors that are considered while designing with geomembranes.
- (e) What are the durability properties with respect to geosynthetics?
- (f) What are the different types of geosynthetics?
- (g) What are the different methods of soil stabilization?
- (h) How does the erosion is controlled in waterways.
- (i) Discuss about geogrid soil interaction,
- (j) Explain box shear test.



#### **SECTION-B**

- 2. Write a note on contribution by RILEM in the field of Geosynthetics. Enumerate the basic objectives of Indian Group of Geosynthetics.
- 3. List the various processes by which:
  - (a) non-woven geosynthetics and
  - (b) geogrids, are manufactured.
- 4. (a) Explain the Pull-Out test.
  - (b) What are the tests which are conducted to obtain stress-strain characteristics and failure load of a geogrid.
- 5. List the assumptions made by Binquet and Lee in their analysis of reinforced earth beds?
- 6. Enumerate the applications of geosynthetics in River valley projects.

#### SECTION-C

- 7. Explain concertina method and telescopic method of construction of reinforced soil retaining walls with sketches.
- 8. Briefly describe the mechanism of mobilization of reinforcement strength in the case of:
  - (a) Geogrid
  - (b) Geotextile
  - (c) Metallic Strips
- 9. Discuss the corrosion of steel meshes *vis-a-vis* degradation of polymeric reinforcements in reinforced soil structures.

NOTE: Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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